



WIRELESS INDUSTRY:

Growing and Competitive

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FCC Recently Issued 12th Annual Competition Report (Presented April 2008 by CTIA)

Finding:

- “U.S. consumers continue to reap significant benefits – including low prices, new technologies, improved service quality, and choice among providers – from competition” in the wireless marketplace.
- “U.S. mobile subscribers lead the world in average voice usage by a wide margin, with Western European subscribers averaging 150 minutes and Japanese subscribers averaging 145 minutes, compared to an average of over 700 minutes in the U.S.
- “The percentage of mobile subscribers who use their cellphones for web browsing was slightly higher in the United States than in Western Europe, and there were broad similarities in the types of information accessed by American and Western European mobile subscribers.
- “Mobile calls were significantly less expensive on a per minute basis in the United States than in Western Europe (where RPM averaged \$0.20 in the last quarter of 2006) and Japan (\$0.26).”

This is a Result of Wireless Companies' On-Going Commitment to Serving Consumers

- More than 150 wireless companies serve more than 255 million subscribers in the U.S., a figure that grew almost 23 million in the last year.
- Wireless licensees together invest an average of \$25 billion a year. On a cumulative basis they have invested more than \$244 billion (not including billions more paid to the federal treasury for their spectrum licenses).
- Wireless providers are constantly working on expanding and upgrading their networks, and over the past several years have deployed high-speed networks to reach more than 234 million people. These broadband technologies (EVDO Rev. A and HSPA) offer average download speeds between 400-600 kbps (or more), and bursting speeds up to 1.6 Mbps. More high-speed facilities are being deployed every day.

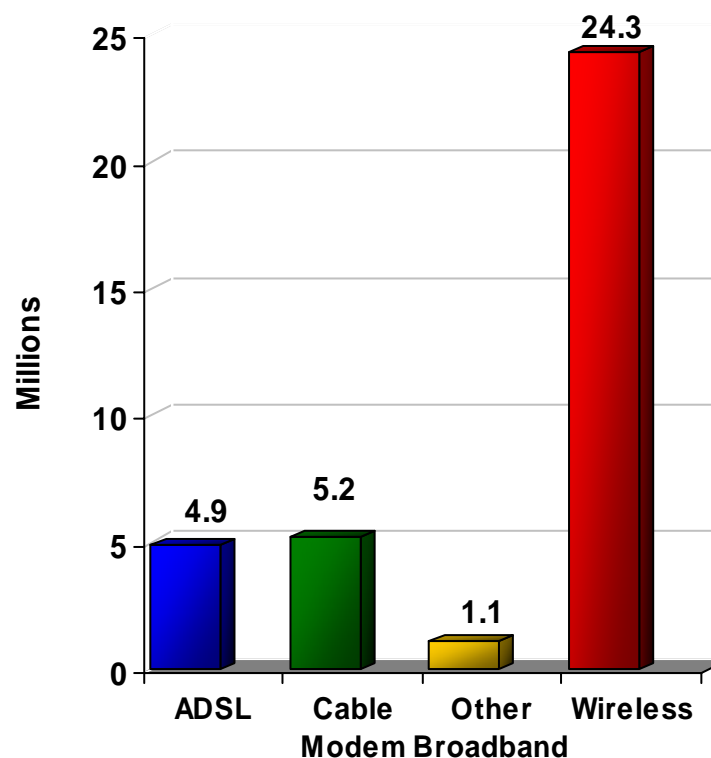
Wireless Offers Choices and Options

- Collectively, there are more than 600 handsets available to consumers in the U.S., compared to fewer than 180 in the U.K. These handsets range from simple, streamlined models like the Jitterbug (geared to consumers who want simple handsets that just do voice calling), to multi-function devices like the Apple iPhone, and Smartphones and other multimedia devices from manufacturers like LG, Motorola, Nokia, RIM, Samsung and Sony Ericsson.

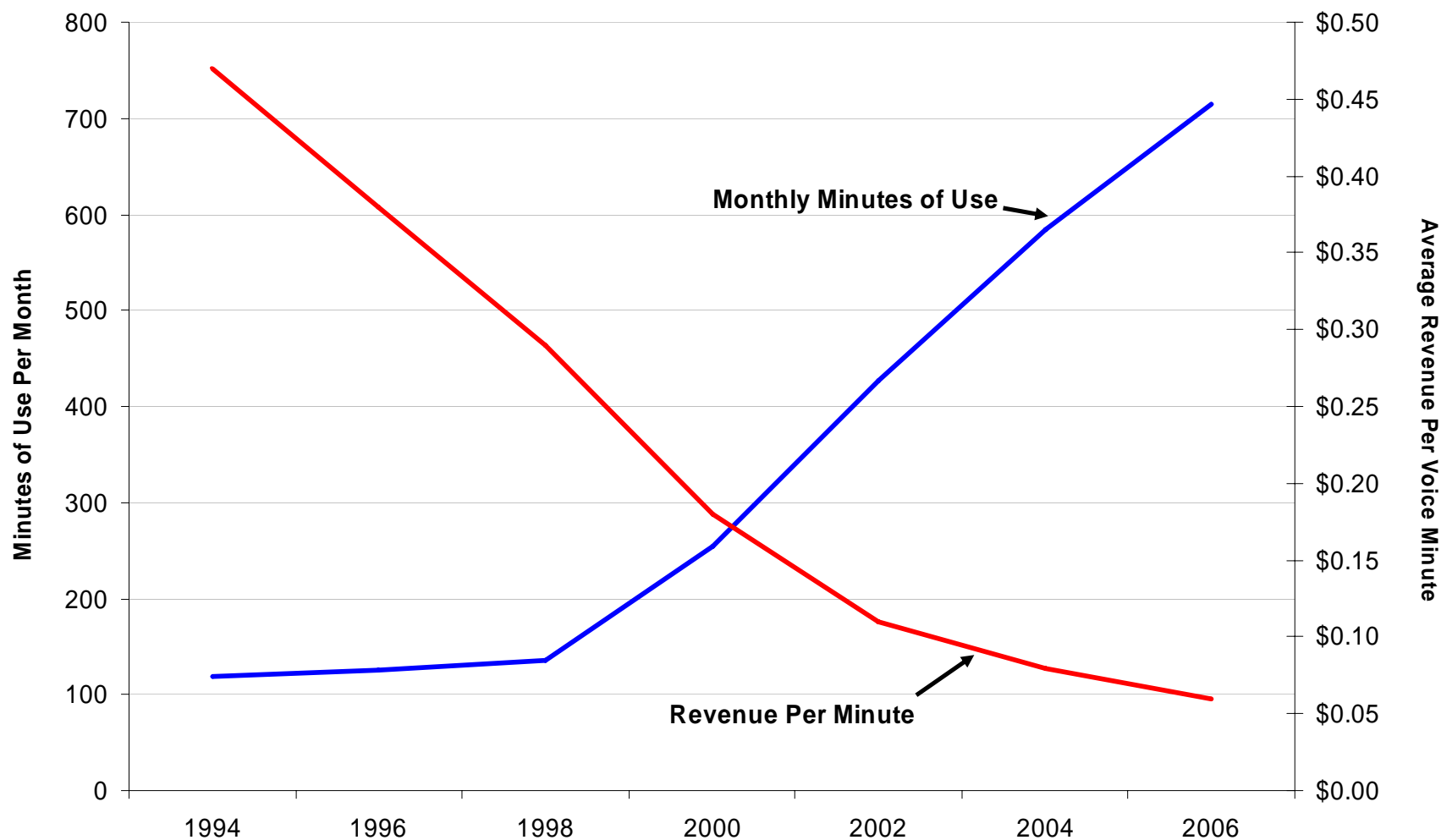
Wireless is a Growing Means of High-Speed Access

- From June 2006 to June 2007, total high-speed lines grew 55%, from 65.3 million to 100.9 million lines, and 68% of all adds were mobile wireless subscriptions.

**High Speed Net Adds by
Type, June 2006 – June 2007**



The Result is Continued Delivery of Value to Consumers



Source: FCC 12th CMRS Report

— Minutes of Use Per Month

— Average Revenue Per Voice Minute

Innovation Has Shrunk Wireless Handsets and Increased Wireless Capabilities for Consumers



1983 – The Motorola Brick weighed close to 2 pounds – and cost \$3,995

1989 – The MicroTac weighed only 9.4oz – and retailed for about \$2,500



1995 – The Qualcomm QCP800 continued the “slim down” trend, weighing 8.8 oz



1996 – The 4.8 oz StarTAC marked the arrival of a pocket-sized mobile device



2000 – The Kyocera QCP6035 was the first Palm-based handset



Innovation Has Shrunk Wireless Handsets and Increased Wireless Capabilities for Consumers



2004 – The 3.8 oz Motorola Razr would become the best selling handset of all time

2005 – Introduced the Motorola Rokr – and incorporated iTunes into a mobile device



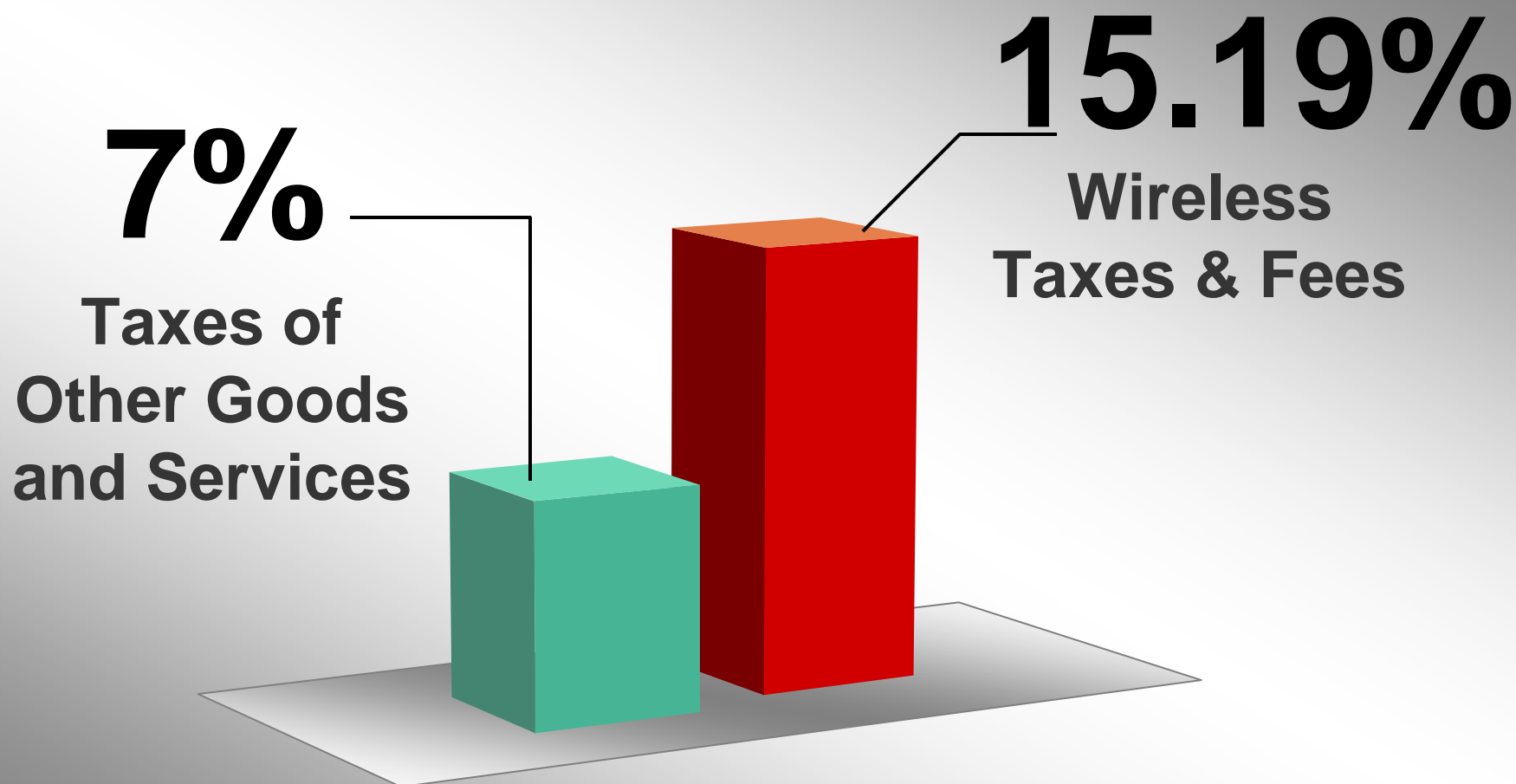
2006 – RIM introduced the Blackberry Pearl, a handset with multimedia functionalities



2007 – The iPhone is introduced and incorporates multiple capabilities and an innovative design



**But This Has Come at a Cost: Wireless Taxes and Fees
Impose Double-Digit Costs on Wireless Consumers –
More Than Twice the Rate on Other Goods & Services**



Executive Summary

- The wireless industry today includes carriers, manufacturers and content providers and makes a significant contribution to the US economy.
 - 3.6 million wireless jobs in the US
 - \$92 billion part of the US economy
- The future of this industry is the delivery of wireless broadband at competitive speeds.
 - Multiple offerings of broadband service
 - Efficient method of expanding broadband coverage to rural and urban areas
 - In the first six months of 2006, the number of mobile wireless broadband lines grew by more than 250% -- from three million to more than 11 million
- To continue to foster lower prices, increased innovation and the consumer benefits of the national framework, government's role should:
 - Promote competition
 - Provide a predictable regulatory environment for companies to operate

Wireless is a Dynamic & Multi-Faceted Industry

Facilities-Based Providers

Wireless Carriers (National, Regional, Local)



Non-Facilities-Based Providers

Mobile Virtual Network Operators (MVNOs)



Manufacturers & Suppliers

Handset, Chip and Network Equipment

Manufacturers, Tower Companies



Application/Software Developers

Television/Entertainment, Mobile Gaming,

Mobile Video, Ringtones



Globally, more than 200 Mobile Broadband Devices have been Introduced



Dell Latitude
D620 / D820
Embedded EV-DO



Lenovo
Thinkpad
T60 / Z60
Embedded EV-DO



Fujitsu Lifebook Q2010
Embedded HSDPA



HP Compaq
nc6140 -6320
Embedded EV-DO

In 2006, there are more than **50** solutions available for embedded laptops or PC Cards



Franklin Wireless
CDU-550
USB Modem
21 grams, *EV-DO*



LG CU500
HSDPA, Bluetooth



Motorola Q
Windows Mobile 5
Smartphone Edition
EV-DO



Samsung SGH-ZV50
2 MP camera, AAC/MP3,
HSDPA



Casio W21CA
2.6 inch WQVGA,
2 MP Camera,
EV-DO



Novatel Wireless
Merlin S720
EV-DO Rev. A



ZTE MF330
WCDMA / *HSDPA*

More than 200 EV-DO and HSDPA devices have been commercially introduced, including PC Cards, notebooks with embedded modems, USB modems, smartphones and feature phones. Source: 3Gtoday.com

Summarizing Wireless's Growth and Innovation

1993

- Service on local/regional analog networks
- 11 billion Minutes of Use (MOU)
- Data Rates of 4.8 kbps
- Contribution to the economy
 - 31,000 employees
 - \$12.75 billion cumulative capital investment
- Average monthly bill – \$67.31
 - Local, long distance, roaming charges
 - Landline surcharge

2006

- 98%+ digital nationwide networks
- 1.5 trillion MOU in 2005, 858 billion in first half of 2006
- Avg. Data Rates up to 500 kbps
- Contribution to the economy
 - 238,236 employees
 - \$209 billion cumulative capital investment
- In 1993 dollars, average monthly bill \$35.34
 - Nationwide coverage – plans with no roaming charges
 - No long distance charges
 - Subscribers' phone on 24/7

Summary

- Wireless has grown well beyond its early days as a voice-only communications device. The growth and innovation in the last 13 years have substantially benefited consumers.
- As a result of the national framework regulatory treatment, the wireless industry is vibrantly competitive demonstrated best by:
 - Low prices
 - Better service
 - More choice -- service plans, equipment and features
- Through the competitive marketplace, the industry has adopted pro-consumer resources:
 - Consumer Code for Wireless Service – commitments to what consumers can expect from their service provider
 - Amber Alerts – public service initiative by the Wireless Foundation to empower 230 million wireless consumers to assist in finding missing children
 - Other initiatives: safe driving education tips, wireless recycling, disability access and content guidelines.

Summary

- Competition among the more than 150 providers serves more than 230 million U.S. mobile wireless subscribers at a penetration rate of more than 76% of the total U.S. population
- U.S. Customers have freedom of choice: In 2006, 94% of the U.S. population had a choice of at least 4 national and regional wireless providers, vs 80% in 2000. Twenty million Americans each quarter switch providers or sign up for new service and more than 2% of mobile customers switch providers each month.
- Consumers benefit from the wireless industry's growth and changing services- families are "mobile" and wireless services are integrated into the very fabric of our customers' lifestyles and daily needs, ie. VZ Navigator and VZ Chaparone